

Site: Shiloh Church Road Site

Task: Excavation

Date: 9/24/19

Predicted Predominant Wind Direction: NW

Predicted Maximum Wind Speed: 7 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling  
Daily Summary  
Shiloh Church Road Site  
Halifax County, Virginia

Date: 9/24/19

Predicted Predominant Wind Direction: NW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result (μCi/mL)	% Of Effluent Concentration Limit	Beta Result (μCi/mL)
Perimeter-1 - South Break Area	<1.86%	0.00E+00	<90.00%	-1.00E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of Derived Air Concentration	Alpha Result (μCi/mL)	% Of Derived Air Concentration	Beta Result (μCi/mL)
AC-5 - Excavation Team	<0.10%	7.71E-14	<9.62%	-7.59E-12

Comments:

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**Air Sampling Unit: F&J LV-1    Serial No: 3794**

**Calibrator Serial: 3067**

**Cal Due Date: 1/21/20**

Calibrator Serial: 3067					Cal Due Date: 1/21/20			α isotope of concern		Ra-226		β isotope of concern			Pb-210	
Pre Flow Rate (LPM)		80.1					Post Flow Rate (LPM)				77.5					
Start Date/Time		9/24/19 8:22					Stop Date/Time				9/24/19 17:23					
						Total Liters				40188.0						
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)		
10/1/19 11:00		161.6	120	60	84	42	0.	1.67E-14	0.00E+00	4625	2276	-0.61	5.40E-13	-1.00E-13		
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)		
10/1/19 11:00		161.6	120	60	84	42	0.	1.67E-14	0.00E+00	4625	2276	-0.61	5.40E-13	-1.00E-13		
								% Eff Criteria:	<1.86%					% Eff Criteria:	<90.00%	

### Task: Excavation

**Dry Cal Serial: 132112**

α isotope of concern				Ra-226		β isotope of concern			Pb-210	
Post Flow Rate (LPM)					4.825					
Stop Date/Time					9/24/19 17:25					
Total Liters					2100.5					
gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)		
70	0.12	2.98E-13	7.71E-14	4841	3035	-2.4	9.62E-12	-7.59E-12		
gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)		
70	0.12	2.98E-13	7.71E-14	4841	3035	-2.4	9.62E-12	-7.59E-12		
		% DAC:	<0.10%				% DAC:	<9.62%		

**Notes: Assigned to Excavation Team.**